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The substance to which these statements refer is the transparent sulphuret of arsenic; this substance is selected because the experimental results of Jamin, and the values given by Fresnel, differ more widely for this substance than for any other. It furnishes, therefore, the best test of any new theory.

Mr. Jellett stated that he had obtained for the new constant, which M. Jamin calls "coefficient of ellipticity," a value sensibly different from that given by M. Jamin. The value of this constant given by M. Jamin for sulphuret of arsenic is

0·0791,

while that obtained by Mr. Jellett is

0·0914.

The Rev. Samuel Haughton made some remarks on Mr. Jellett's paper.

LORD TALBOT DE MALAHIDE, on the part of T. A. WISE, M. D., presented a cast of a stone cross which had been discovered in Perthshire.

Dr. Wise in the accompanying paper describes this sepulchral cross, recently discovered, and similar in character to a numerous class of crosses well known to Scotch antiquaries.

They are well described and portrayed in two fine works, "The Ancient Sculptured Monuments of Angus," by the late Mr. Chalmers of Auldbar, and "The Sculptured Stones of Scotland," published by the Spalding Club, through Mr. John Stuart, the able Secretary of the Antiquaries of Scotland.

These crosses are, with few exceptions, confined to the part of Scotland north of the Forth, but range through the eastern counties as far as Caithness, and even to Shetland. They are most numerous in the districts formerly occupied by the kingdom of the Picts.

With considerable resemblances to the Irish crosses, they differ in many important respects. They contain, frequently, hunting scenes and very strange animals, such as bears, lions, elephants, centaurs, &c. There are numerous emblems, such as the mirror and spectacle ornament described by Dr. Wise, and also many others which are hitherto unexplained. As a general rule, they have no inscriptions. Almost the only exceptions are the stone at Newton, on the Garioch, which has a Runic or Ogham inscription, and also another in an unknown character; there is also an inscribed stone at Brechin, and there is a stone at Bressay, in Shetland, with an inscription in Runes. A cast of this was exhibited at the Newcastle Meeting of the Archæological Institute; and it is very much to be desired that Professor Graves, who has done so much in this field of research, would give his interpretation of it.

There is another kind of crosses which are not included in those publications, found at Iona, and other parts of the west of Scotland. They are of a Scandinavian character.

ON A CAST OF A STONE CROSS FORWARDED TO THE ROYAL IRISH ACADEMY
BY T. A. WISE, M. D.

THIS cast* was prepared from a beautiful stone cross which was recently discovered at Meigle, in Strathmore, and is considered a good specimen of a numerous class found in that part of Scotland which formed the ancient kingdom of Pictania, that existed from the third to the ninth century. Those crosses are all peculiar in their form, and in the character of their ornaments; are believed to be of a very early date, of which history makes no mention, and they differ from those of the west and south of Scotland. The present specimen will afford the Members of the Royal Irish Academy an opportunity of comparing it with the numerous and beautiful crosses of Ireland.

This cross, like many others, had been broken and thrown down, probably at the time of the Reformation in Scotland, and was recently found on removing a malt-kiln which had been erected one hundred and fifty years ago. The original of this, and three other fragments of crosses and sculptured stones, had been used in the building, and, unfortunately, the one the cast of which is now forwarded to the Academy, was considerably injured by its proximity to the fire-place.

These beautiful crosses of Scotland are from two to fourteen feet in length,† and differ from those in Ireland by being carved in relief from the face of the stone, with monstrous animals in the margin, and on a large proportion of them is carved the beautiful interlaced ornament which has been found in some Irish manuscripts.‡ The back of these crosses represents processions of men on horseback and on foot, with hunting dogs, and various eastern animals, such as lions, elephants, serpents, camels, brahminic-bulls, centaurs, &c.

An interesting peculiarity of these crosses in Scotland is, that thirty-nine have the Christian cross, with more or less decorations; fifty-nine have peculiar symbols, along with the Christian cross; and fifty-one have these symbols alone on erect stones, seven of which are more or less connected with circles of stones;§ so that we have a link between what are called Druidical circles and the stones with the peculiar symbols which seem to be Buddhistical; and then again combined with crosses erected by the large and peculiar sect of primitive Christians.

The eastern symbols on these stones consist of two circles joined together by a belt forming the Buddhist *droge*, or symbol of the Deity;|| and in the present cast this peculiar symbol appears on the left side of the cross, and merely consists of a circle with half the belt, which indicates the spiritual Deity, or Providence, and, when completed, would

* By Mr. Laing, Edinburgh.

† Sueno's Stone at Forres is an example, being 23 feet above the ground.

‡ Wilson's "Prehistoric Annals of Scotland," p. 497.

§ I beg to enclose a few copies of an Essay on the subject, which was read before the Royal Society, Edinburgh. See also vol. ii., part 2.

|| "Sculptured Stones of Scotland," by the Spalding Club.

have formed the Buddhist triad, or "*droge symbol*." A similar representation is found on other stones, in which the third member of the triad, or organized matter, was a segment of a circle, a bird, and in the present instance appeared to be a monstrous elephant.

Those heathen symbols, in combination with the Christian cross, prove the liberality of their sentiments, when, probably, a large proportion of the Celtic nation were idolaters; and they are peculiarly interesting, as, probably, the same symbols will be found in Ireland and other Celtic countries, and thus prove an analogy in the belief of those nations before they became Christian.

It is probable that the original of the cross now before the Academy was placed over the grave of the chief represented on horseback, on the back of the stone, who had changed the Pagan worship for that of the Christian faith.

The thanks of the Meeting were voted to Dr. Wise for this valuable gift.

MONDAY, FEBRUARY 14, 1859.

JOHN KELLS INGRAM, LL.D., Vice-President, in the Chair.

JOSEPH REAY GREENE, Esq., Professor of Natural History, Queen's College, Cork, was elected a Member of the Academy.

DR. E. PERCEVAL WRIGHT, F. L. S., read a paper by PROFESSOR J. REAY GREENE—

ON THE MORPHOLOGY OF THE HYDROZOA, WITH REFERENCE TO THE CONSTITUTION OF THE SUB-KINGDOM CŒLENTERATA.

THE author commented on the zoological relations of the animal forms included by Cuvier under the classes Polypi and Acalephæ, and showed the necessity of uniting these organisms into a sub-kingdom by themselves, as had been done by Frey and Leuckart, the results of whose labours had been further corroborated by the independent observations of Huxley. For this sub-kingdom the name "Cœlenterata," had been proposed by its founders. The author next proceeded to prove that the classes Polypi and Acalephæ of Cuvier were far from natural, inasmuch as they were framed without a due regard to anatomical characters. He then considered, in detail, the morphology of the groups in question, and, after reviewing the results of the investigations of Huxley, Köelliker, Leuckart, Vogt, and others, concluded by presenting the following classification of the Cœlenterate sub-kingdom:—

SUB-KINGDOM.—CŒLENTERATA.

Animals in which the digestive canal freely communicates with the general cavity of the body. Substance of the body consisting of two distinct layers. The peculiar urticating organs termed "thread cells" usually present.